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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/802,217      | 03/17/2004  | Taras G. Pokhil      | 169.12-0594         | 3533             |

164 7590 07/12/2006

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EXAMINER

NEGRON, DANIEL L

ART UNIT PAPER NUMBER

2627

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/802,217

Applicant(s)

POKHIL ET AL.

Examiner

Daniell L. Negrón

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 21, 23-27, 30, 32, and 36 is/are rejected.
- 7) ☒ Claim(s) 22, 28, 29, 31, 33-35 and 37-40 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21, 23-25, 27, 30, 32, and 36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kryder et al U.S. Patent No. 6,011,664.

Regarding claim 30, Kryder et al disclose a magnetic writer comprising a write pole (44) and a coil (52) adjacent to the write pole having a current that induces a write current component (used to select the bit to be addressed) and a high frequency (i.e., RF) component, wherein the write current component and the high frequency component are controlled to create an area of magnetic resonance within a magnetic media (column 2, line 66 through column 3, line 1, and column 5, lines 52-54). Although not explicitly disclosed in the reference, a write current component is considered inherent in the signal emitted by the radio frequency generator since a current component, altered to oscillate at a high frequency is necessary in order to provide the radio frequency signal as disclosed by Kryder et al.

Regarding claim 32, Kryder et al disclose a magnetic writer wherein the high frequency component of the current is created by modulating (i.e., combining blending, altering) the current with a high frequency current (see rejection discussed above).

Regarding claim 36, claim 36 has limitations similar to those treated in the above rejections, and are met by the reference as discussed above.

Regarding claims 21, and 23-25, method claims 21 and 23-25 are drawn to the method of using the corresponding apparatus claimed in claims 30 and 32. Therefore method claims 21 and 23-25 correspond to apparatus claims 30 and 32 and are rejected for the same reasons of anticipation as used above.

Regarding claim 27, Kryder et al disclose a method of writing to a magnetic media, wherein the high frequency magnetic field is oriented perpendicular to the magnetic media (column 6, lines 4-19 and Figures 4a-d).

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kryder et al U.S. Patent No. 6,011,664.

Regarding claim 26, Kryder et al disclose the claimed invention except for orienting the high frequency magnetic field parallel to the magnetic media. It would have been an obvious matter of design choice to change the orientation of the magnetic field since the applicant has not disclosed that orienting the high frequency magnetic field parallel to the magnetic field solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the magnetic field oriented perpendicularly to the magnetic media.

*Allowable Subject Matter*

5. Claims 22, 28, 29, 31, 33-35, and 37-40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding claims 22, 31, and 37, prior art fails to disclose or suggest a method and apparatus for writing to magnetic media comprising all the limitations of the corresponding independent claims, further producing current comprising configuring a current generation circuit to produce a high frequency oscillation in the current following a transition of the current from one direction to the opposite direction.

Regarding claims 28 and 29, prior art fails to disclose or suggest a method for writing to magnetic media comprising all the limitations of the corresponding independent claims, further including selecting the magnetic media and frequency of the high frequency of the high frequency magnetic field such that a magnitude of the magnetic write field that will create magnetic resonance within the magnetic media corresponds to the steepest magnitude gradient of the magnetic write field.

Regarding claims 33 and 38, prior art fails to disclose or suggest a magnetic writer or magnetic head comprising all the limitations of the corresponding independent claims, further wherein the high frequency component of the current creates magnetic precession within the write pole, wherein magnetic precession within the write pole generates a high frequency magnetic field.

Regarding claims 34, 35, 39, and 40, prior art fails to disclose or suggest a magnetic writer or magnetic head comprising all the limitations of the corresponding independent claims,

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further wherein the write current component generates a magnetic write field and the high frequency component generates a high frequency magnetic field, wherein the magnetic write field and the high frequency magnetic field interact to create an area of magnetic resonance within the magnetic media.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 21-40 have been considered but are moot in view of the new grounds of rejection.

### ***Prior Art***

Akiyama et al U.S. Patent No. 5,949,600 is cited as of interest for disclosure of a magnetic recording and reproducing device implementing write current and high frequency components for data recording.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniell L. Negrón whose telephone number is 571-272-7559. The examiner can normally be reached on Monday-Friday (8:30am-5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DLN   
July 7, 2006

  
WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER